

## CLAIMS

What is claimed is:

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1. A foam construction block comprising:  
a generally rectangular block of foam forming a plurality of generally horizontally- and vertically-extending voids, at least one of said horizontally-extending voids extending between the top and bottom surfaces of said block, and at least one of said vertically-extending voids extending between the side surfaces of said block, at least one of said horizontally-extending voids intersecting at least one of said vertically-extending voids;

a facing made of a cementitious material and bonded to an exterior surface of said block, said facing covering substantially all of the face of the block to which it is adhered.

2. The foam construction block of claim 1 wherein said facing comprises two facing pieces adhered to said block of foam in abutting relation, such that said block of foam may be cut transversely into two pieces, each of which has one of said facing pieces adhered thereto.

3. The foam construction block of claim 1 wherein at least one of said generally horizontally-extending voids is tapered inwardly from one end to the opposite end.

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4. The foam construction block of claim 1 wherein a mesh material is embedded in the inwardly-facing surface of said facing and in said block of foam.

5. The foam construction block of claim 4 wherein said mesh material comprises a wire mesh.

6. The foam construction block of claim 5 wherein said wire mesh comprises chicken wire.

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7. The foam construction block of claim 1 wherein said block of foam comprises urethane foam.

8. A portable mold for making a foam construction block comprising:  
a baseplate having a generally rectangular area thereon defining two end regions and two side regions, and including a raised void-forming portions extending between the two end regions;

two end plates having upper and lower edges mountable on the baseplate respectively adjacent said two end regions with said lower edges abutting said baseplate such that said end

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plates are restricted from outward movement with respect to one another, said end plates further having a void forming portion extending between the top and bottom edges;

two side plates having upper and lower edges mountable on the baseplate respectively adjacent said two side regions with said lower edges abutting said baseplate, said side plates and said end plates forming a cavity of generally rectangular cross-section therebetween when mounted on said baseplate;

a top plate having two opposed side regions and two opposed end regions, said top plate being mountable on side plates and end plates in a manner that restricts said side plates and said end plates, respectively, from moving away from one another, said top plate and said baseplate being further mountable to said end plates and side plates such that they are restricted from outward movement relative to one another.

9. The mold of claim 8 further comprising a tapered void-forming member mountable between said top plate and said bottom plate for forming a vertically-extending void.

10 The mold of claim 8 including a restraining rod extendable between said base plate and said top plate for mounting said base plate and said top plate to said end plates and side plates such that said top plate and said bottom plate are restrained from moving away from one another.

11. The mold of claim nine including a restraining rod extendable between said baseplate and said top plate for mounting said baseplate and said top plate to said end plates and side plates such that said top plates and said bottom plates are restrained from moving away from one another.

12. The mold of claim 9 wherein said baseplate includes a plurality of upstanding members engageable with said end plates and said side plates for restraining said end plates and said side plates, respectively, from moving outwardly with respect to one another.

13. The mold of claim 12 wherein said top plate includes a plurality of depending members engageable with said end plates and said side plates for restraining said end plates and said side plates, respectively, from moving outwardly with respect to one another.

14. The mold of claim 13 wherein said top plate includes an aperture for receiving a restraining rod and wherein said baseplate includes a fastener connected thereto for holding

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said restraining rod against upward movement relative to said baseplate, said mold further including a fastener releasably engageable with said restraining rod and engageable with the upper surface of said top plate for holding said top plate against upward movement relative to said bottom plate.

15. The mold of claim 14 wherein said restraining rod comprises a threaded rod, wherein said fastener connected to said baseplate comprises a nut for a threadedly engaging said restraining rod and wherein said fastener releasably engageable with said restraining rod comprises a nut threadedly engageable with said restraining rod.

16. A method of making a foam construction block having a cementitious facing using a mold comprising a baseplate, two opposed end plates, two opposed side plates and a top plate forming a generally rectangular mold cavity therebetween and containing a void forming members for forming at least one horizontally extending void extending between said base plates and at least one vertically extending void extending between said baseplate and said top plate comprising the steps of:

coating the interior surface of the mold cavity with a mold release compound;

positioning a cementitious facing in said mold adjacent to one of said side plates, said cementitious facing being spaced away from said side plate such that at least the center portion of said cementitious facing is restrained from bearing on said end plate;

introducing a foam generating agent into said mold cavity in sufficient quantity to generate a quantity of foam sufficient to fill the mold cavity;

removing said top plate, end plates and side plates; and

removing said block and facing from said mold.

17. The method of claim 16 wherein said foam generating agent is a urethane foam generating agent.

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all 18. A foam construction block comprising a block of foam of generally rectangular horizontal and vertical cross section, said block having first and second ends, first and second faces and upper and lower top faces and having voids formed along the upper and lower surfaces extending between said end faces, and having voids formed along the end faces extending between said top and bottom faces, and having at least one tapered void

formed in the block body and extending between said voids formed along the upper and lower surfaces.

19. ~~The block of claim 18 wherein said foam block is a urethane foam block.~~

20. A method of making a wall comprising the steps of:

laying a footing for said wall;

transporting a mold for making foam construction blocks and a foam generating agent to a location proximate to the construction site, said mold being configured to form blocks having intersecting horizontal and vertical voids therein;

forming blocks in said making a plurality of foam construction blocks using said mold and said foam generating material;

stacking a plurality of said blocks in abutting end to end relation above said foundation to forming a first course of blocks such that the horizontal voids in said blocks are aligned to forming a horizontal channel;

stacking a plurality of said blocks in abutting end to end relation above said first course of blocks to forming a second course of blocks such that the vertical voids in the blocks in the first course are aligned with the vertical voids in the blocks in the second course to form vertical channels;

adhering said foam construction blocks to one another using a construction adhesive;

extending reinforcing rods horizontally through said horizontal channels and vertically through said vertical channels;

filling said horizontal and vertical channels with a cementitious material.

(21) The method of claim 20 further comprising the steps of attaching siding material retaining members to said reinforcing rods prior to the step of filling said horizontal and vertical channels with a cementitious material.

(22) The method of claim 21 wherein said deciding material retaining members comprise wire mesh material and wherein said wire mesh material is attached to said reinforcing rods by means of wire ties.

(23) The method of claim 22 further comprising the step of covering said wire mesh material with stucco.

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